

P-3 Orion 03/24/17

Aircraft:

P-3 Orion ([See full schedule](#))

Flight Number:

Science Flight #9 - CryoVEx Line

Payload Configuration:

OIB Arctic

Nav Data Collected:

No

Total Flight Time:

5.8 hours

Submitted by:

Janet Letchworth on 03/24/17

Flight Segments:

From:	BGTL	To:	BGTL
Start:	03/24/17 12:20 Z	Finish:	03/24/17 18:05 Z
Flight Time:	5.8 hours		
Log Number:	17P006	PI:	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Flight included CryoVEx line with coordinated flight with ESA Researchers and underflight of CryoSat2.		

Flight Hour Summary:

	17P006
Flight Hours Approved in SOFRS	333.6
Total Used	332
Total Remaining	1.6

17P006 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
02/24/17	Airworthiness Test Flight	Check	1	1	332.6
02/26/17	Project Test Flight #1	Check	4.9	5.9	327.7
02/27/17	Project Test Flight #2	Check	3	8.9	324.7
03/07/17	Transit Flight	Transit	8.2	17.1	316.5
03/09/17	Science Flight #1 - North Pole Transect	Science	8	25.1	308.5
03/10/17	Science Flight #2 - Laxon Line	Science	8.5	33.6	300
03/11/17 - 03/12/17	Science Flight #3 - Chukchi West Line	Science	8	41.6	292
03/12/17 - 03/13/17	Science Flight #4 - North Beaufort Loop Line	Science	8.1	49.7	283.9
03/14/17 - 03/15/17	Science Flight #5 - East Beaufort Loop Line	Science	8	57.7	275.9
03/20/17	Science Flight #6 - Sea Ice South Basin Transect (to Thule)	Science	8.1	65.8	267.8
03/22/17	Science Flight #7 - North Flux 02	Science	7.9	73.7	259.9
03/23/17	Science Flight #8 - Zig Zag West Line	Science	7.9	81.6	252
03/24/17	Science Flight #9 - CryoVEx Line	Science	5.8	87.4	246.2
03/27/17	Science Flight #10 - Northwest Coastal A Line	Science	7.4	94.8	238.8
03/28/17	Science Flight #11 - North Central Cap 01 Line	Science	7.6	102.4	231.2
03/29/17	Science Flight #12 - Ellesemere Island 01 Line	Science	7.6	110	223.6

03/30/17	Science Flight #13 - Ellesemere South Line	Science	7.9	117.9	215.7
03/31/17	Science Flight #14- Alexander-Petermann Line	Science	6.5	124.4	209.2
04/03/17	Science Flight #15- Zachariae 79N Fram Straight and BGTL ENSB Transit	Science	7.4	131.8	201.8
04/05/17	Science Flight #16 - Svalbard North Line (High Priority)	Science	7	138.8	194.8
04/06/17	Science Flight #17- Svalbard South Mission (High Priority)	Science	8.5	147.3	186.3
04/07/17	Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL	Science	8.3	155.6	178
04/10/17	Science Flight #19- North Central Gap 3	Science	7.8	163.4	170.2
04/11/17	Science Flight #20- CryoVex 2 (High Priority)	Science	7.8	171.2	162.4
04/12/17	Science Flight #21-Northwest Coastal C	Science	7.2	178.4	155.2
04/13/17	Science Flight #22-North Glaciers 02 Prime (High Priority)	Science	8.2	186.6	147
04/14/17	Science Flight #23-IceSat-2 North/CryoSat-2 SARIn	Science	7	193.6	140
04/17/17	Science Flight #24-Humboldt 01(High Priority)	Science	7.8	201.4	132.2
04/19/17	Science Flight #25-Sea Ice - South Canada Basin (MediumPriority)	Science	7.8	209.2	124.4
04/20/17	Transit Flight to Kangerlussuaq	Transit	3	212.2	121.4
04/21/17	Science Flight #26-Southeast Coastal	Science	8	220.2	113.4
04/22/17	Science Flight #27-Helheim-Kangerd	Science	7.8	228	105.6
04/24/17	Science Flight #28-Geikie 01 (High Priority)	Science	8	236	97.6
04/26/17	Science Flight #29-Devon-Bylot (Medium Priority)	Science	7.9	243.9	89.7
04/28/17	Science Flight #30-Penny 01 (Medium Priority)	Science	6	249.9	83.7
04/29/17	Science Flight #31-Thomas - Jakobshavn 01	Science	8.4	258.3	75.3
05/01/17	Science Flight #32-Thomas - Jakobshavn-Eqip-Store	Science	8.4	266.7	66.9
05/02/17	Science Flight #33-Thomas - ICESat-2 Central	Science	7.9	274.6	59
05/03/17	Science Flight #34-Thomas - Southwest Coastal A	Science	8.3	282.9	50.7
05/05/17	Science Flight #35-Helheim-Kangerdlugssuaq Gap B (High Priority)	Science	8.2	291.1	42.5
05/06/17	Science Flight #36-Helheim-K-EGIG-Summit	Science	8	299.1	34.5
05/08/17	Science Flight #37-Southeast Glaciers 01 (High Priority)	Science	8	307.1	26.5
05/10/17	Science Flight #38-Umanaq B (High Priority)	Science	8	315.1	18.5
05/11/17	Science Flight #39-ICESat-2 South (High Priority)	Science	8.1	323.2	10.4
05/12/17	Science Flight #40-Nuuk Fjords	Science	1.8	325	8.6
05/13/17	Transit Flight to Dover DE (to clear customs)	Transit	6.4	331.4	2.2

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:**OIB - P-3 Orion 03/24/17 Science Report****Mission:**

OIB

Mission Summary:

OIB completed the CryoVEx line which consisted of an underflight of CryoSat-2 in coordination with ESA's CryoVEx operating a Norlandair Twin Otter and AWI's Polar 5 aircraft from the PAMARCMiP project. Poor weather at Alert yesterday grounded the Twin Otter and Polar 5 for the planned mission on the previous day so this flight was launched to achieve coordination during another CryoSat-2 overpass. The mission was designed to account for the earlier closing time of Thule today, and included a delayed take-off to better estimate the launch probability of the other aircraft. Good communication with the other planes enabled us to safely fly at an altitude of 1750 feet and achieve the full 2-18 GHz bandwidth of the snow radar. We spotted the other planes about midway through on our return line at about 1600Z with the Twin Otter flying under us and the Polar 5 slightly offset to the east and much lower in altitude. CryoSat-2 passed overhead at 1641Z about 2.5 minutes after we had finished the line. Weather was very good for the flight with only a few patchy layers of thin haze about midway through the flight. All instruments performed well making for a very successful flight and creating a tremendous collaborative opportunity between the three aircraft and satellite data sets.

Data volumes

ATM: T5: 22 Gb T6: 68 Gb

FLIR: 9 Gb

Cambot: 28 Gb

KT19: 10 Mb

DMS: 63.3 Gb

Snow/Ku radar: 600 Gb (2-18 GHz operation)

MCoRDS: Did not operate

Accumulation radar: 298 Gb of test data

Gravity: 2.5 Gb

data on: 1227

data off: 1644

File:[sicryovex.pdf](#)**Submitted by:**

Nathan T. Kurtz on 03/24/17

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